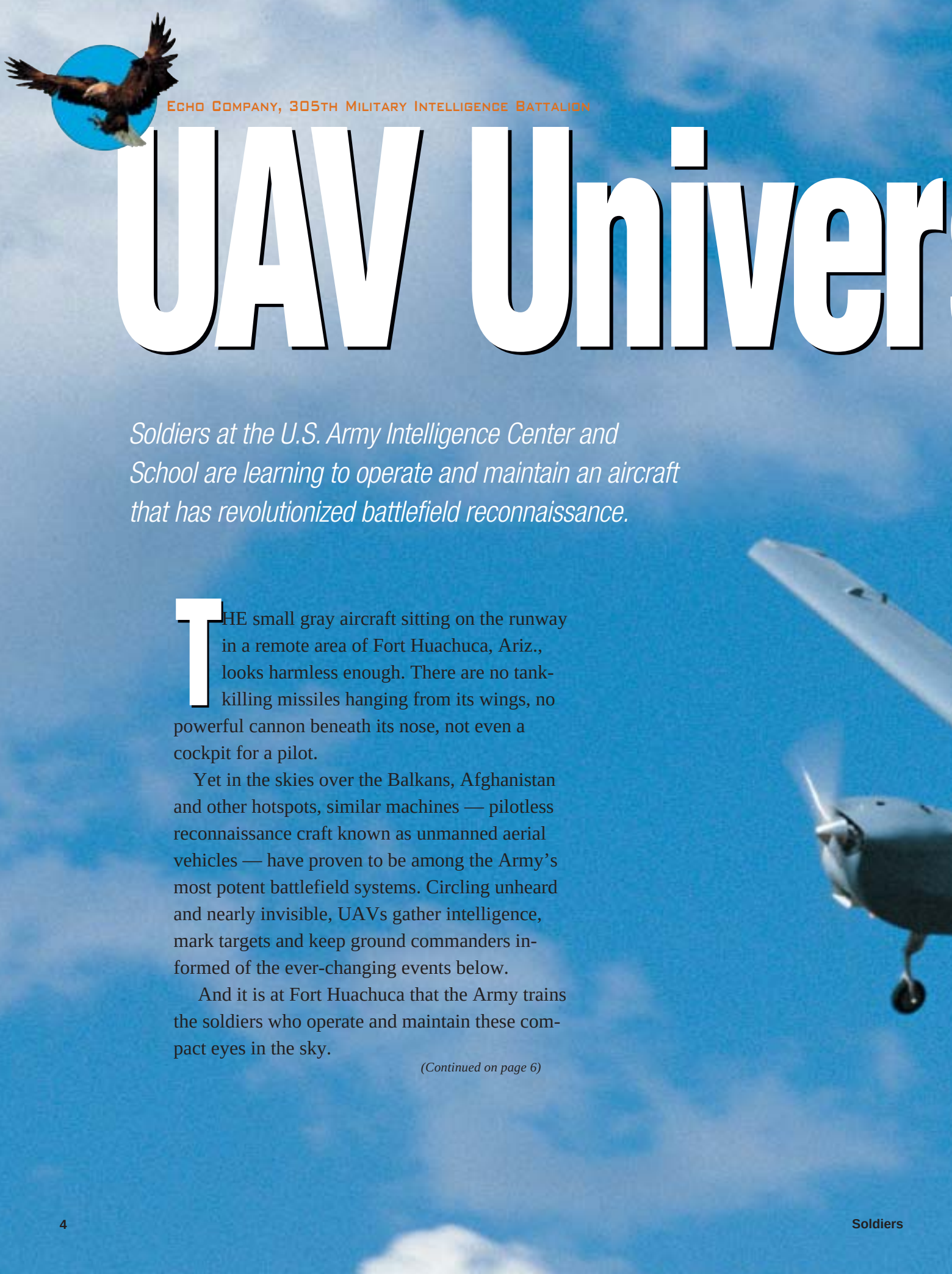

ECHO COMPANY, 305TH MILITARY INTELLIGENCE BATTALION

UAV Univer

Soldiers at the U.S. Army Intelligence Center and School are learning to operate and maintain an aircraft that has revolutionized battlefield reconnaissance.

THE small gray aircraft sitting on the runway in a remote area of Fort Huachuca, Ariz., looks harmless enough. There are no tank-killing missiles hanging from its wings, no powerful cannon beneath its nose, not even a cockpit for a pilot.

Yet in the skies over the Balkans, Afghanistan and other hotspots, similar machines — pilotless reconnaissance craft known as unmanned aerial vehicles — have proven to be among the Army's most potent battlefield systems. Circling unheard and nearly invisible, UAVs gather intelligence, mark targets and keep ground commanders informed of the ever-changing events below.

And it is at Fort Huachuca that the Army trains the soldiers who operate and maintain these compact eyes in the sky.

(Continued on page 6)

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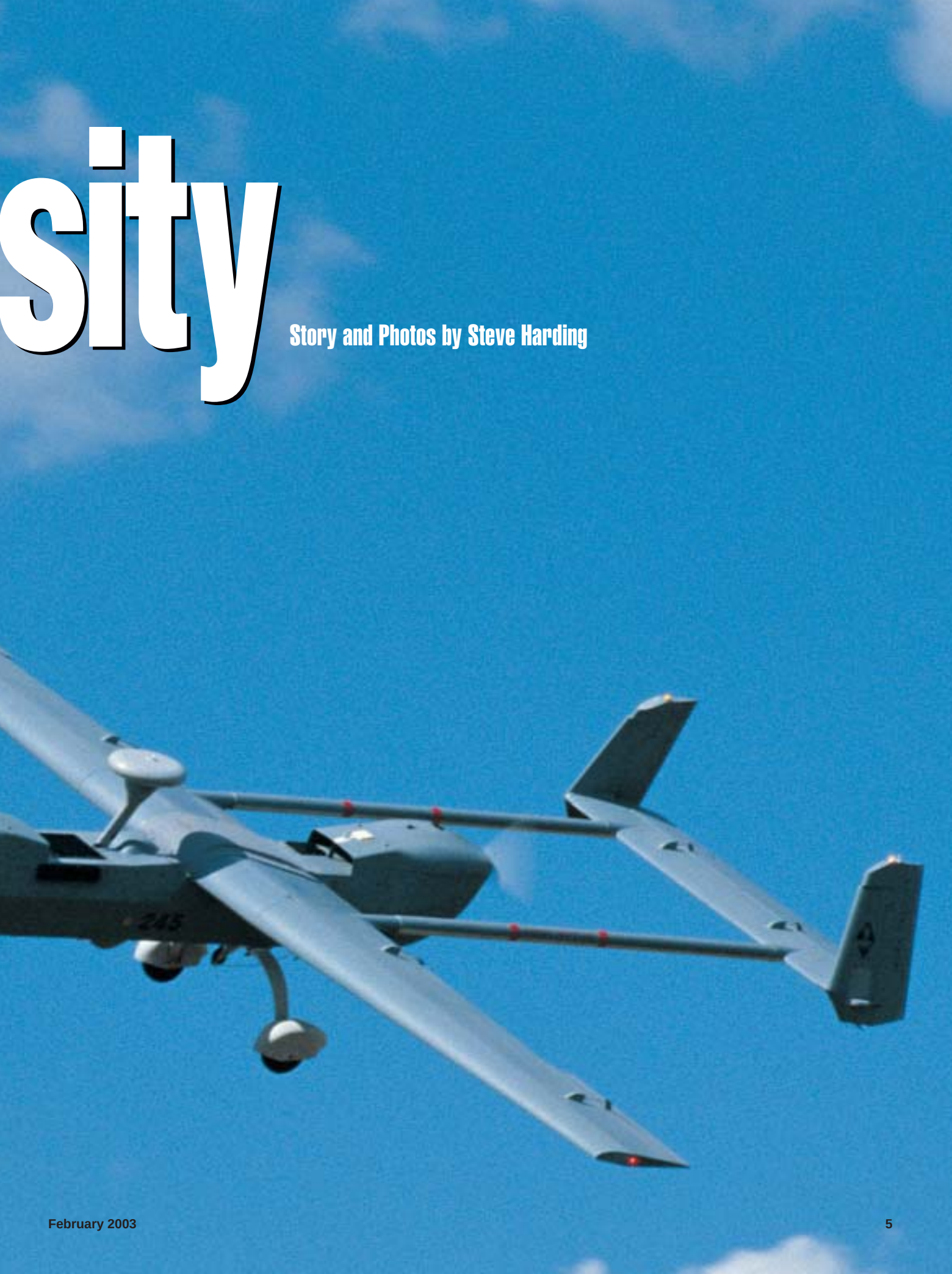
Story and Photos by Steve Harding



A Modern Facility

Part of the 305th Military Intelligence Battalion's Company E, Fort Huachuca's Unmanned Aerial Vehicle Training Center lies at the end of a winding road several miles from the main post. The modern buildings house three amphitheater-style classrooms, a computer-assisted-training classroom, a maintenance training facility and two simulator rooms, and nearby is a 2,000-foot hard-surface runway dedicated solely to UAV operations. The complex is surrounded by some 600 square kilometers of airspace closed to civilian aircraft.

"It's a great facility, and it's well suited to what we teach," said CPT Prescott Farris, an Army aviator and the officer in charge of UAV training. "Our students have to master a variety of challenging subjects — things like aerodynamics, navigation and weather — and the layout of the classrooms and other training areas really helps facilitate learning."

The school's staff numbers about 40, and includes officers, enlisted soldiers and civilians. The staff is organized into a flight platoon, a maintenance platoon and an operations platoon. Instructors are split about equally between soldiers and Department of the Army civilians.

"We have a fair number of DAC instructors, mainly because there is a real desire to get our schoolhouse NCOs back into the field," Farris said. "Since many of the DACs have been involved with UAVs since the beginning, it gives continuity in terms of the knowledge base and a tremendous well of experience to draw from.

"The bottom line," Farris said, "is that together our military and civilian instructors know just about everything there is to know about the two UAV systems we teach."

Soldiers hone their skills on simulators that replicate the UAV's flight characteristics and information-gathering capabilities.

Students in the 16-week UAV systems maintainer course take a closer look at a Hunter. Before transitioning to UAVs, MOS 33W soldiers must first complete the U.S. Army Intelligence School's exhaustive 42-week intelligence systems maintainer course.

Hunter and Shadow

Instruction at the school centers on the Army's two principle UAV systems, the RQ-5A Hunter and RQ-7A Shadow. Though similar in appearance, Farris said, the aircraft differ greatly in both mission and capability.

"With a wingspan of 29 feet, Hunter is a fairly large aircraft that's intended to be a division and corps asset," he said. "It's a twin-engined, medium-endurance, medium-range aircraft, and it requires an improved site for take-off and landing. It also requires an external pilot to get it airborne and land it separately from the operators in the ground-control station, who fly the aircraft and operate its sensors."

The Hunter and its associated systems must be transported aboard several five-ton trucks, Farris said. Moving the system into a particular area is what he termed a "large logistical event," and the system requires a very large "footprint" on the ground to operate.

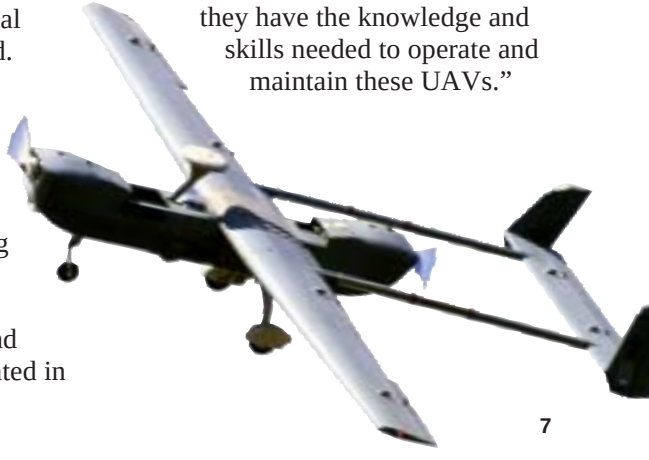
In comparison to the older and larger Hunter, the single-engine Shadow is a small and compact system intended as a brigade-level asset, Farris said.

"The maneuver brigade commander is really concerned more with the short-range fight, and Shadow is intended to give him a UAV he can employ in his own way," he said. At just over nine feet long and with a wingspan of about 13 feet, Shadow is a smaller, more easily handled aircraft with somewhat shorter range.

"And we've taken the external pilot out of the loop," Farris said. "The Shadow is Humvee-transportable, uses a launcher rather than a runway for takeoff and has an automatic landing system with arresting gear. So the aircraft doesn't need the long and improved runway that the Hunter requires."

Though they differ in size and capability, both UAVs are operated in essentially the same way, Farris said. Once in the air, they are controlled by a two-soldier team — the air-vehicle operator flies the aircraft, while the mission payload operator controls the onboard cameras and other sensors. The images and other data gathered by the UAV are transmitted back to a ground station or to other aircraft, and can be used for reconnaissance, targeting and other purposes.

"These are very capable and sophisticated systems," Farris said, "and it's up to us to ensure that when our students leave here, they have the knowledge and skills needed to operate and maintain these UAVs."



Students and Courses

Though some students attending the UAV school are career soldiers who have been reclassified from other MOSs, most are privates fresh out of basic training, Farris said. Whatever their background, all of the students are enrolled in one of four basic courses.

Air-vehicle operators and mission-payload operators are covered by one MOS, 96U, and during 24 weeks of training they learn everything from basic aerodynamics to payload operations to flightline operations. The training includes classroom lectures, simulator "missions" and actual flight time. Each student must pass the same security clearance requirements as all other intelligence soldiers, as well as passing a Class 3 flight duty medical examination — a variant of the standard Army flight physical.

In the MOS 52D UAV maintainer course, MOS-qualified basic generator mechanics are trained to handle all aspects of UAV engine maintenance and repair. The course is 10 weeks long for prospective Hunter mechanics and five weeks for those destined for Shadow units.

MOS 33W systems maintainers are responsible for the UAV's shelter, software, antennas, cables and payloads. All students in the school's 33W course must have completed the U.S. Army Intelligence School's exhaustive 42-week intelligence systems maintainer course. They come to the UAV school for 16 weeks of additional training in the systems specific to the UAVs.

The 16-week external pilot course is specific to those soldiers who take off and land the Hunter, and who turn over control of the aircraft to the air-vehicle operator for the actual mission. Training for external pilots includes the same aerodynamics, weather, navigation and other training provided to air-vehicle operators.

"We definitely throw a lot of information at all of our students," said SFC Ronald Miller, the NCOIC of UAV training. "But the good news is that only about two percent of our 15 percent attrition rate in the UAV course is due to academic problems.

"Our students are very motivated, and very computer literate, and we put a lot of effort into helping each person," Miller said.

Beyond the school's primary mission of turning out highly qualified UAV operators, Farris said, he and his instructors also try to continue the "soldierization" process of the individual students.

"Even though we're a school, we're also trying to turn these young people into professional soldiers that believe in and uphold the Army values," he said. "We also want them to understand that they're intelligence professionals, and that what they do can have a direct and important impact on the battlefield."

SGT Richard Peebles and SPC Brett Horner work on a Hunter in the UAV school's maintenance hangar.

Soldiers move a Hunter into position for takeoff *(above)*, and minutes later the aircraft lifts off under the control of civilian external-pilot instructors *(larger photo)*. On landing, the UAV uses its tail hook to snag an aircraft-carrier-style wire.

The Future

As the Army's use of UAVs continues to grow, providing well-trained and competent soldiers to operate them will become increasingly important, Farris said.

"UAVs are a growth industry, and the young soldiers who go through this school will be on the cutting edge of a growing and increasingly important technology," he said. "There are newer and more capable UAVs on the horizon, and we're sure that when they come along we'll be training the operators right here." □

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